

Identification of characteristic aroma compounds in raw and thermally processed African giant snail (*Achatina fulica*)

ABSTRACT

BACKGROUND:

Food flavor appreciation is one of the first signals along with food appearance and texture encountered by consumers during eating of food. Also, it is well known that flavor can strongly influence consumer's acceptability judgment. The increase in the consumption of snail meat across the world calls for the need to research into the aroma compounds responsible for the distinctive aroma notes of processed snail meat.

RESULTS:

The odorants responsible for the unique aroma notes in thermally processed giant African snail meats were evaluated by means of aroma extract dilution analysis (AEDA), gas chromatography-olfactometry (GC-O) and odor activity values (OAVs) respectively. Results revealed significant differences in the aroma profiles of the raw and thermally processed snail meats. Whilst the aroma profile of the raw snail meat was dominated with the floral-like β -ionone and β -iso-methyl ionone, sweaty/cheesy-like butanoic acid, and the mushroom-like 1-octen-3-one, the boiled and fried samples were dominated with the thermally generated odorants like 2-methylpyrazine, 2,5-dimethylpyrazine, 2-acetylthiazole and 2-acetylpyridine.

CONCLUSION:

Finally, results have shown that sotolon, 2-acetyl-1-pyrroline, 2-furanmethanethiol, 2-methylbutanal, 1-octen-3-one, octanal, furanone, 2-methoxyphenol, 2-acetylpyridine, 2-acetylthiazole, and 2-methylpyrazine contributed to the overall aroma of the thermally processed snail meat.

Keyword: African giant snails; Aroma compounds; Thermal process; AEDA; OAVs